COMMUNICATIONS SYSTEM USING RINGS ARCHITECTURE

Abstract of the Disclosure

Systems and methods are provided for implementing: a rings architecture for communications and data handling systems; an enumeration process for automatically configuring the ring topology; automatic routing of messages through bridges; extending a ring topology to external devices; write-ahead functionality to promote efficiency; wait-till-reset operation resumption; in-vivo scan through rings topology; staggered clocking arrangement; and stray message detection and eradication. Other inventive elements conveyed include: an architectural overview of a packet processor; a programming model for a packet processor; an instruction pipeline for a packet processor; and use of a packet processor as a module on a rings-based architecture. Additional inventive elements conveyed include: an architectural overview of a communications processor; a data path protocol support model for a communications processor; an exemplary network processor employed as the core packet processor for the communications processor; an exemplary rings-based SOC switch fabric architecture; and a variety of quality of support features.

Figures